CLAIMS

What is claimed is:

1. A power conditioning system for providing clean and uninterrupted power to loads, comprising:

a cabinet;

an input circuit including a passive filter for receiving three phase AC power;

an AC to DC converter receiving AC power from said input circuit;

a regulating DC to DC converter receiving DC power from said AC to DC converter;

a high frequency DC to AC inverter;

an output circuit including a passive filter receiving power produced by said high frequency DC to AC inverter;

two banks of batteries, said system configured to receive DC power from either of said banks to produce AC power by said high frequency DC to AC inverter such that the connection of both battery banks is not necessary to operate said high frequency DC to AC inverter;

a battery charging circuit receiving internal DC power, said battery charging circuit connected to provide charging for said batteries; and

wherein said AC to DC converter is configured to operate using either 400 or 480 volt AC three phase input power.

2. A system according to claim 1, wherein said inverter utilizes pulse width modulation at about 50 kHz to produce AC power output.

3. A system according to claim 1, wherein said AC to DC converter is configured to operate using 50 or 60 Hz AC input power.

4. A system according to claim 1, wherein the capacity of the unit is about 30kVA and the unit includes internal batteries for supplying power for at least 10 minutes at full capacity load.

5. A system according to claim 1, wherein each of said banks is organized in a front and rear vertical rack, each rack providing access to each individual battery without the removal of other batteries, wherein the front rack may be swung about a pivot point near the bottom of the rack to provide access to the rear rack.

6. A system according to claim 1, wherein said AC to DC converter includes a 12 pulse rectifier.

7. A system according to claim 1, wherein the system further comprises a main breaker or switch, and wherein the system prevents current from flowing from said batteries onto DC busses when said main breaker or switch is thrown.

8. A system according to claim 1, wherein the system may be started using internal or external batteries without an AC power source connected.

9. A system according to claim 1, wherein the system includes a CPU-controlled battery charging circuit.

10. A system according to claim 1, wherein the system further comprises a master CPU that monitors the operation of the system modules.

11. A power conditioning system for providing clean and uninterrupted power to loads, comprising:

a cabinet,

an input circuit including a passive filter for receiving three phase AC power,

an AC to DC converter receiving AC power from said input circuit,

a regulating DC to DC converter receiving DC power from said AC to DC converter,

a high frequency DC to AC inverter,

an output circuit including a passive filter receiving power produced by said high frequency DC to AC inverter,

two banks of batteries, said system configured to receive DC power from either of said banks to produce AC power by said high frequency DC to AC inverter such that the connection of both battery banks is not necessary to operate said high frequency DC to AC inverter,

a battery charging circuit receiving internal DC power, said battery charging circuit connected to provide charging for said batteries,

a main breaker or switch, and wherein the system prevents current from flowing from said batteries onto DC busses when said main breaker or switch is thrown; and

wherein said AC to DC converter is configured to operate using either 400 or 480 volt AC three phase input power at 50 or 60 Hz.

12. A system according to claim 11, wherein said inverter utilizes pulse width modulation at about

50 kHz to produce AC power output.

13. A system according to claim 11, wherein the capacity of the unit is about 30kVA and the unit includes internal batteries for supplying power for at least 10 minutes at full capacity load.

14. A system according to claim 11, wherein each of said banks is organized in a front and rear vertical rack, each rack providing access to each individual battery without the removal of other batteries, wherein the front rack may be swung about a pivot point near the bottom of the rack to provide access to the rear rack.

15. A system according to claim 11, wherein said AC to DC converter includes a 12 pulse rectifier.

16. A system according to claim 11, wherein the system may be started using internal or external batteries without an AC power source connected.

17. A system according to claim 11, wherein the system includes a CPU-controlled battery charging circuit.

18. A system according to claim 11, wherein the system further comprises a master CPU that monitors the operation of the system modules.

19. A power conditioning system for providing clean and uninterrupted power to loads, comprising:

a cabinet;

an input circuit including a passive filter for receiving three phase AC power;

an AC to DC converter receiving AC power from said input circuit, said AC to DC converter further including a 12 pulse rectifier, further wherein said AC to DC converter is configured to operate using either 400 or 480 volt AC three phase input power at 50 or 60 Hz.;

a regulating DC to DC converter receiving DC power from said AC to DC converter;

a high frequency DC to AC inverter utilizing pulse width modulation at about 50 kHz to produce AC power output;

an output circuit including a passive filter receiving power produced by said high frequency DC to AC inverter;

two banks of batteries, said system configured to receive DC power from either of said banks to produce AC power by said high frequency DC to AC inverter such that the connection of

both battery banks is not necessary to operate said high frequency DC to AC inverter, further wherein each of said banks is organized in a front and rear vertical rack, each rack providing access to each individual battery without the removal of other batteries, wherein the front rack may be swung about a pivot point near the bottom of the rack to provide access to the rear rack;

a battery charging circuit receiving internal DC power, said battery charging circuit connected to provide charging for said batteries;

a CPU-controlled battery charging circuit;

a main breaker or switch, and wherein the system prevents current from flowing from said batteries onto DC busses when said main breaker or switch is thrown;

wherein the capacity of the unit is about 30kVA and the unit includes internal batteries for supplying power for at least 10 minutes at full capacity load.